

## REMARKS

### *Claim Status*

Claims 1-23 are pending. Claims 1-16 and 23 were withdrawn from consideration.

Claims 17-22, under current examination, have been rejected.

### *Claim Rejections – 35 U.S.C. § 112*

The examiner has rejected claim 21 as failing to comply with the written description requirement. The examiner believe that the newly added phrase “small abrasive particles are a different material than the large abrasive particles” is not supported by the specification.

The applicant respectfully disagrees with the examiner. In the original specification, the last sentence of paragraph [0040] states “[a] complete description of this blade is found in U.S. Pat. No. 3,628,292 and is incorporated by reference herein.” ‘292, in col. 3, lines 4-8, discloses that a variety of abrasive grains can be employed in the construction of the [blade]. Exemplary of abrasive grains which can be employed are various types of aluminum oxides, silicon carbides, aluminum-zirconium oxides, zirconium oxides and the like **and mixtures thereof.**” Instead of repeating some information contained in another document, an application may incorporate the content of another document or part thereof by reference to the document in the text of the specification. The information incorporated is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed. Replacing the identified material incorporated by reference with the actual text is not new matter. See 37 CFR 1.57 and MPEP § 608.01(p) for Office policy regarding incorporation by reference. Since ‘292 was incorporated into the applicants specification

by reference, and since '292 discloses that mixtures of different abrasives may be used in cutting wheels, then the applicants addition of the phrase "small abrasive particles are a different material than the large abrasive particles" is supported by the specification and should not be considered new material.

Accordingly, the applicant respectfully requests that the examiner withdraw the instant rejection.

***Claim Rejections – 35 U.S.C. § 102***

The examiner has rejected claims 17, 18 and 20 as being anticipated by Ishizuka '609.

With regards to claim 17, the examiner feels that Ishizuka discloses the same invention including a saw blade consisting essentially of a matrix for encapsulating large and small abrasive particles in the matrix, the small abrasive particles being encapsulated inside the matrix in a high-density concentration, the blade being corrugated with substantially uniform thickness and comprising raised surfaces and lowered surfaces, the lowered surfaces being parallel to and spaced laterally and longitudinally of the raised surfaces, and transition portions connecting the raised surfaces and the lowered surfaces.

The applicant respectfully disagrees with the examiner. Anticipation is the complete disclosure in a single prior art source of a device **substantially identical to the claimed invention**. Harris v. NRM Corp., 191 USPQ 643 (1976, ND Ohio). An invention is anticipated when "all of the same elements are found in exactly the same situation and united in the same way to perform the function in a single prior art reference." Schroeder v. Owens Corning Fiberglas Corp., 514 F2d 90, 185 USPQ 723 (1975, CA9 Cal). (Citing Walker v. General Motors Corp. (CA9 Cal) 362 F2d 56, 58, 149 USPQ 472,

473, 474. An invention is not anticipated when the alleged anticipating device is substantially different in construction and operation from the claim invention. Fuller v. Yentzer, 94 US 299, 24 L. Ed. 107 (1877).

Here the applicant's invention is a saw blade consisting essentially of several elements: first, a matrix for encapsulating large and small abrasive particles in the matrix. Ishizuka discloses a matrix for encapsulating abrasives particles of substantially the same size (in the cited figures 3A-D the abrasive particles are shown as substantially all the same size; further Ishizuka specifically states in two separate places, col. 4 lines 63-67; and col. 5 lines 32-37, that smaller sized abrasives may be located **adjacent** to the area of the primary abrasive particles, thus they are not contained within the same matrix as in required by the applicant's invention). Second, the applicant's invention calls for the small abrasive particles are encapsulated in the matrix in a high-density concentration. As discussed above, Ishizuka does not mix small and large abrasive particles, let alone include, describe or suggest that the matrix that encapsulates the large abrasive particles also includes small abrasive particles in a high-density concentration. Third, the applicant's invention calls for the saw blade being corrugated, with substantially uniform thickness and comprising raised and lowered surfaces. Ishizuka discloses a non-corrugated saw blade. At best, Ishizuka discloses a corrugated base member upon which abrasive particles may be added to form a non-corrugated saw blade, such a corrugated base member not being a portion of the applicant's invention. See figures 5C and D. Fourth, the applicant's invention calls for the lowered surfaces of the saw blade being parallel to and space laterally and longitudinally of the raised surface. As discussed above, Ishizuka does not disclose a corrugated saw blade with raised and lowered surface, but only a corrugated base member, which is filled in to

form a substantially non-corrugated saw blade. Fifth, the applicant's invention calls for a transition portion connecting the raised surfaces and the lowered surfaces. As discussed above, Ishizuka does not disclose a corrugated saw blade with raised and lowered surface, but only a corrugated base member, which is filled in to form a substantially non-corrugated saw blade.

Regarding claim 18, the examiner feels that Ishizuka discloses the transition portions at an angle to the raised and lowered surfaces. Claim 18 properly depends upon claim 17, which has been patentably distinguished from Ishizuka above. As for Ishizuka discloses the transition portions at an angle to the raised and lowered surfaces, Ishizuka does not disclose a corrugated saw blade but merely a corrugated base member, which is not even a part of the applicant's invention. Therefore, Ishizuka's disclosure of an angled transition member of a base member, which is not a part of the applicant's invention, cannot properly anticipate the applicant's invention.

Regarding claim 20, the examiner feels that Ishizuka discloses the raised and lowered surfaces are substantially flat. Claim 20 properly depends upon claim 17, which has been patentably distinguished from Ishizuka above. As for Ishizuka discloses the raised and lowered surfaces as being substantially flat, Ishizuka does not disclose a corrugated saw blade but merely a corrugated base member, which is not even a part of the applicant's invention. Therefore, Ishizuka's disclosure of a substantially flat raised and lowered surfaces a base member, which is not a part of the applicant's invention, cannot properly anticipate the applicant's invention.

Thus, Ishizuka does not disclose, teach or suggest all of the same elements found in exactly the same situation and united in the same way to perform the function as the applicant's invention. Therefore, Ishizuka cannot properly anticipate the applicant's claim 17, 18 or 20 and the applicant respectfully requests that the examiner withdraw the instant rejections.

***Claim Rejections – 35 U.S.C. § 103***

The examiner has rejected claims 19 as being obvious in view of the combination of Ishizuka in view of Greenspan (4,114,322). The examiner feels that Ishizuka discloses the invention but remains silent with respect to the angle at which the transition portions interact with the raised and lowered surfaces and is silent as to the 45° angle of the transition portion. The examiner feels that Greenspan teaches transition portions that are at a 45° angle to the raised and lowered surfaces.

The applicant respectfully disagrees with the examiner. The applicant has distinguished Ishizuka above. As for Greenspan, Greenspan discloses a ridged or knurled surfaced of a wheel, said ridges including a wavy surface that has 45° angles on the wavy surface. There is no teaching or suggestion in either Ishizuka or Greenspan, either individually or in combination, that one of ordinary skill in the arts would combine a flat saw blade (Ishizuka) with a ridged wheel (Greenspan) to form a corrugated saw blade with a corrugated surface, let alone a corrugated surface with transition elements at 45° angles relative to raised and lowered elements of the corrugated saw blade. Accordingly, Greenspan cannot be properly combined with Ishizuka to disclose all of the elements of the instant invention, especially as they are now claimed after the above amendments.

The examiner has rejected claim 21 as being obvious over Ishizuka in view of Hagan (5,997,597). The examiner feels that Ishizuka discloses the invention but fails to disclose the small abrasive particles are of a different material than the large abrasive particles. The examiner feels that Hagan teaches the use of two different abrasive materials.

The applicant respectfully disagrees with the examiner. The applicant has distinguished Ishizuka above. As for Hagan, Hagan discloses a ridged or knurled surfaced of a wheel, said ridges including a wavy surface that has 45° angles on the wavy surface. There is no teaching or suggestion in either Ishizuka or Hagan, either individually or in combination, that one of ordinary skill in the arts would combine a flat saw blade (Ishizuka) with a knurled wheel (Hagan) to form a corrugated saw blade with a corrugated surface, let alone a corrugated surface with transition elements at 45° angles relative to raised and lowered elements of the corrugated saw blade. Accordingly, Hagan cannot be properly combined with Ishizuka to disclose all of the elements of the instant invention, especially as they are now claimed after the above amendments.

The examiner has rejected claim 22 as being obvious over Ishizuka. The examiner feels that Ishizuka discloses a corrugated saw blade being made of a matrix encapsulating both large and small abrasive particles. Further, the examiner seems to feel that Ishizuka, while not actually disclosing a depth of corrugation to thickness ratio of greater than 3 to 1, appears to disclose this ratio in figure 3B.

The applicant respectfully disagrees with the examiner. Ishizuka, in figure 3B discloses a corrugated base member, not a corrugated saw blade, the base member has what appears to be a large depth to thickness ratio. If the examiner were to actually inspect

Ishizuka figures 5, the examiner would see that Ishizuka does not disclose a corrugated saw blade, as is required by the applicant's claims. Therefore, the applicant's claim 22 cannot be properly found obvious in view of Ishizuka.

For the above reasons, the applicant respectfully requests that the examiner withdraw the instant rejections.

***The examiner's response to the previous arguments***


The applicant has consistently asserted that his invention is for a corrugated saw blade. The examiner feels that the claims fail to disclose a saw blade made entirely of a matrix material, despite the fact that the claims make no reference to any other material. The examiner feels that Ishizuka discloses a saw blade consisting essentially of a matrix and a saw blade consisting essentially of a corrugated shaped blade comprising a matrix material. The examiner seems to be misconstruing the transitional phrase "consisting essentially of" that is found in the applicant's claims. The transitional phrase "consisting essentially of" **limits the scope of a claim to the specified materials** or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). Thus by using the transitional phrase "consisting essentially of" the applicant has excluded those elements that do not materially affect the basic and novel characteristics of the claimed invention, specifically the applicant has excluded Ishizuka's underlying base member (Ishizuka's item 31). Thus, the applicant's claims in fact disclose a saw blade made entirely of a matrix material encapsulating large and small abrasive particles. This is not to be misconstrued, as the examiner does, as the same as a base member upon which a

matrix material may be plated, as is disclosed by Ishizuka. Thus Ishizuka's item 31 (base member) is definitely not the same as the applicant's item 34 (saw blade).

Therefore, since Ishizuka's smooth saw blade that incorporates a base member is not even close to the applicant's corrugated saw blade that does not incorporate a base member, the applicant respectfully request that the examiner withdraw all of the instant rejections.

Respectfully submitted,

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On November 4, 2006

By: \_\_\_\_\_